

# **Combination of a Shade and Rain Umbrella**

Cross Reference to related Applications	(none)
Statement Regarding Fed Sponsored R & D	(none)

## **Background of the Invention**

The invention relates to a combination of a shade and a rain umbrella. That is, the umbrella is useful as a shading instrument when a person is located in a hot sunshine area, such as being located on a beach, for example, but at the same time a quick rain squall can develop whereby the shade constructed umbrella is of no value because the rain water would penetrate through the open mesh shade cover.

## **Objects of the Invention**

An object of the invention is to provide a shading umbrella as well as a rain umbrella in the same structure and usefulness of the combination of a shade and rain umbrella. The object of the invention is to quickly convert the shading part of the umbrella with a rain proof cover over the same so that a rain proof cover is obtained to shield a person under the umbrella from being soaked by rain water coming down while penetrating through the open mesh shade cover.

## **Brief Description of the Drawings**

Fig. 1 is a perspective and an exploded view of the umbrella combination;

Fig. 2 shows views of different ways of fastening the rain cover to the ribs of the umbrella;

Fig. 3 shows a container for the rain cover on the shaft of the umbrella;

Fig. 4 illustrates a clamp for clamping the shaft of the umbrella to an object;

Fig. 5 illustrates the clamp of Fig. 4 but clamped in a different direction;

Fig. 6 shows the handle of the shaft having screw threads at a bottom thereof;

Fig. 7 shows two ways of extending the shaft of the umbrella to different lengths;

Fig. 8 illustrates the casing for the umbrella when not in use.

#### Detailed Description of the Invention

Fig. 1 illustrates a perspective and an exploded view of the umbrella according to the invention. The reference character 1 illustrates the shading part or the basic umbrella. the shaft of the umbrella is shown at 2 having the bottom handle 3 thereon the shading part of the combination is shown at 4. The shade material consists of a knit mesh material as a fabric which protects against the ultraviolet (UV) rays of the sun while providing a shaded area below the umbrella but at the time affording ventilation through the mesh fabric. The fabric is a HDPE polyethylene knit mono-tape construction designed to block greater than 90% of the ultra-violet radiation below the cover. The top point of the umbrella shaft is shown at 5 as it penetrates through the mesh fabric 4. The inside of the mesh fabric 4 has a pocket therein to receive and store the rain cover therein when not in use, as will be explained below. The basic umbrella further has a multiple of ribs 10 thereon, as is well known, including the exterior peripheral ends or points 9. The inventive umbrella combination includes a rain proof cover 7, which is of the same size as the shade cover 4.

In the event of rain, the umbrella can easily be converted to a rain umbrella by simply removing the stored rain cover from the pocket 6 and placing the rain cover over the mesh shade cover to thereby prevent any rain from penetrating through the mesh.

fabric. The rain cover is fastened to the mesh cover by placing the opening 11 over the shaft top 5 and by placing the eyelets 8 over the peripheral rib ends.

Figs 2A through 2D illustrate various ways of fastening the ends of the rain cover to the peripheral ends 9 of the ribs 10 of the basic umbrella. Fig. 2A has snaps 15 and 16 that merely snap together to make a connection.

Fig. 2B shows a rigid plastic eyelet that is placed over the end 9 of rib 10.

Fig. 2C shows corresponding parts 18 and 19 of a hook and loop fastening system that are merely pressed together.

Fig. 2D shows a plain eyelet system using one flexible eyelet 8 which is slipped over the ends 9 of any of the ribs 10. This system has already been explained with reference to Fig. 1. For simplicity reasons, this latter fastening system is preferred.

Fig. 3 shows a different way of storing the rain cover 7 (Fig. 1) in a pocket or container 20 which is removably attached to the shaft 2 by way of the hook 23 fastener 21 and the loop fastener 22.

Fig. 4 shows a clamp to clamp the vertical shaft 3 to a horizontal object 40. To this end, the shaft handle 3 with its interior threads 3a (Fig. 6) are screwed onto the upstanding threads 41 on the clamp 42 until seated. The clamp 42 has a lower clamp jaw 43 that is movable in an up and down manner by the screw threaded shaft 44 which is movable by the handle wheel 45. When the umbrella is to be fastened to any horizontal object, the clamp 42 is moved over the object with its jaw open and then the handle wheel 45 is turned which in turn rotates the screw shaft upwardly which in turn will move the lower movable jaw 43 upwardly until the bottom 43a will seat against the lower surface of the horizontal object 40 to thereby seat the clamp.

Fig. 5 illustrates how the umbrella can be installed on a vertical object. In this arrangement, again, there is a vertical threaded shaft 41, as was shown in Fig. 4.

The handle 3 with its interior threads (3a in Fig. 6) is screwed onto this shaft 41 until seated. The clamp 52 and 52a has a horizontally movable jaw 53 which is operated or moved by the threaded shaft 54 which in turn is turned by the handle wheel 55. The operation of this clamp is the same as was explained with regard to Fig. 4 except in a different orientation.

Both uses of the clamps shown in Figs. 4 and 5 may be described as a C-clamp being usable in two different orientations.

Fig. 6 shows the lower handle 3 installed on the end of the shaft 2 and having the interior threaded recess therein.

Fig. 7 illustrates how the shaft 2 (Figs 1 - 6) of the umbrella can be extended to different lengths. The shaft 71 (formerly 2) has the upstanding screw threads 70 thereon for the reception of the interior threads 3a in handle 3. To make the shaft 71 extendible to different lengths a telescoping shaft or tube 72 is superimposed over the shaft 71. The lower end of shaft 72 has a pointed end 73 thereon to be pushed into the ground for support. The upper end of shaft 72 carries a sleeve 74 thereon. the sleeve has a lever 75 pivoted thereon which can be moved up and down as shown by the arrow. The inner end of the lever 75 has a cam 76 thereon which will clamp against the shaft 71 to arrest when the shaft 71 is at a predetermined length. An alternative way of adjusting the length of the shaft 71 is shown on the right side of Fig. 7. In this embodiment there is made a use of a the well known compression fitting 77. Further details are omitted.

Figs 8A and 8B illustrate a casing or container 80 for storing the umbrella combination when not in use. The casing is opened and closed by a zipper 81. The casing 80 has a carrying handle 82 thereon. There are two pockets 83 and 84 on the casing. One may be used for storing the rain cover therein while the other my used for storing the two way C-clamp therein. The extendible shaft itself may easily be stored within the casing together with the basic umbrella.